

Name: _____

Date: _____

PCW__09__22 Coordinate transformations v18

Question 1

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 3 \cdot f[5x + 6] - 7$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a-6}{5}, 3b-7 \right)$$

Question 2

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 6 \cdot (f[9(x+4)] + 8)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a}{9} - 4, 6(b+8) \right)$$

Question 3

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f[5x-8]}{6} + 4$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a+8}{5}, \frac{b}{6} + 4 \right)$$

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Question 4

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x}{9} - 8\right]}{2} - 3$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(9(a + 8) , \frac{b}{2} - 3 \right)$$

Question 5

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x+3}{2}\right] - 9}{6}$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(2a - 3 , \frac{b - 9}{6} \right)$$

Question 6

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 9 \cdot f\left[\frac{x - 2}{5}\right] + 6$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (5a + 2 , 9b + 6)$$